

WE CLAIM:

1. An electrostatic discharge protection device for protecting a head gimbal assembly circuit from electrostatic discharge, the device comprising:  
5 a housing; and  
a shunt positioned within the housing, the shunt comprising a pair of electrical contacts, the shunt having a first position in which the electrical contacts are in electrical communication with the circuit and a second position in which the electrical contacts are not in electrical communication with the circuit;  
10 wherein the shunt can be reversibly moved between the first position and the second position.

2. The electrostatic discharge protection device of claim 1, wherein the device can be used in a head gimbal assembly testing apparatus.  
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3. The electrostatic discharge protection device of claim 1, wherein the shunt provides a limited resistance of less than about 0.1 ohms between the electrical contacts when the shunt is in its first position.

20 4. The electrostatic discharge protection device of claim 1, wherein the shunt protects against electrostatic discharges that are between about 2 and 5 volts.

25 5. The electrostatic discharge protection device of claim 1, further comprising a deshunting rail that is configured to accept and support a portion of the pair of electrical contacts when the shunt is in its second position.

30 6. The electrostatic discharge protection device of claim 5, wherein the deshunting rail is configured to lift the pair of electrical contacts so that electrical communication between the shunt and the circuit is broken.

5        7. The electrostatic discharge protection device of claim 1, further comprising a deshunting pin that is reversibly moveable from a shunted position in which the pair of electrical contacts are in electrical communication with the circuit to an unshunted position in which the pair of electrical contacts are not in electrical communication with the circuit.

10        8. The electrostatic discharge protection device of claim 1, wherein the shunt is configured to protect a head gimbal assembly and the shunt provides a limited resistance between the electrical contacts that are in electrical communication with the head gimbal assembly's reader circuit.

15        9. The electrostatic discharge protection device of claim 8, wherein the shunt further provides a limited resistance between the electrical contacts that are in electrical communication with the head gimbal assembly's writer circuit.

20        10. The electrostatic discharge protection device of claim 1, wherein the housing is configured to snap onto a printed circuit board.

25        11. The electrostatic discharge protection device of claim 1, wherein the shunt is configured to be manually moved between its first position and its second position.

25        12. The electrostatic discharge protection device of claim 1, wherein the shunt is configured to be automatically moved between its first position and its second position.

30        13. An assembly comprising a connector block and the electrostatic discharge protection device of claim 1, wherein the connector block is configured to cooperate with the device in a testing environment such that the connector block functions to reversibly move the shunt from a first position to a second position.

14. The test assembly of claim 13, wherein bringing the connector block into contact with a printed circuit board physically moves the shunt from its first position to its second position.

5 15. The test assembly of claim 14, wherein removing the connector block permits the shunt to move from its second position to its first position.

16. A method of protecting a head gimbal assembly from electrostatic discharge, the method comprising steps of:

10 providing a shunt comprising a pair of electrical contacts, the shunt having a first position in which the electrical contacts are in electrical communication with the head gimbal assembly and a second position in which the electrical contacts are not in electrical communication with the head gimbal assembly;

15 placing the shunt in its first position to protect the head gimbal assembly against electrostatic discharge;

moving the shunt into its second position to permit testing operations of the head gimbal assembly; and

returning the shunt to its first position.

20 17. The method of claim 16, wherein the step of moving the shunt into its second position comprises moving the shunt into its second position without introducing any electrical product variations.

25 18. An electrostatic discharge protection device comprising:  
means for electrically communicating with a circuit to be protected; and  
means for reversibly shorting a portion of the circuit to be protected.

19. The electrostatic discharge protection device of claim 18, wherein the means for electrically communicating with the circuit to be protected comprises a shunt 30 having a pair of electrical contacts that are moveable from a first position in which the electrical contacts are in electrical communication with the circuit to be protected to a

second position in which the electrical contacts are not in electrical communication with the circuit to be protected.

20. The electrostatic discharge protection device of claim 18, wherein the  
5 means to reversibly short a portion of the circuit to be protected comprises one of a  
deshunting rail and a deshunting pin.

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